# PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

# PCT

NOTIFICATION CONCERNING
TRANSMITTAL OF COPY OF INTERNATIONAL
PRELIMINARY REPORT ON PATENTABILITY
(CHAPTER I OF THE PATENT COOPERATION
TREATY)
(PCT Rule 44bis.1(c))

To:

OBSCHESTVO S OGRANICHENNOI
OTVETSTVENNOSTJU 'SOJUZPATENT'
ul. Iliinka, 5/2
Moscow, 103735
FÉDÉRATION DE RUSSIE

Date of mailing *(day/month/year)*
28 September 2006 (28.09.2006)

Applicant's or agent's file reference
R 4840

**IMPORTANT NOTICE**

| International application No. | International filing date *(day/month/year)* | Priority date *(day/month/year)* |
|---|---|---|
| PCT/RU2004/000105 | 19 March 2004 (19.03.2004) | |

Applicant
ZAKRYTOE AKTSIONERNOE OBSCHESTVO 'INTEL A/O' et al

The International Bureau transmits herewith a copy of the international preliminary report on patentability (Chapter I of the Patent Cooperation Treaty)

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Facsimile No. +41 22 338 82 70

Authorized officer
Beate Giffo-Schmitt 20 OKT 2006

e-mail: pt03@wipo.int

23386

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44*bis*)

| | | |
|---|---|---|
| Applicant's or agent's file reference<br>R 4840 | **FOR FURTHER ACTION** | See item 4 below |
| International application No.<br>PCT/RU2004/000105 | International filing date *(day/month/year)*<br>19 March 2004 (19.03.2004) | Priority date *(day/month/year)* |
| International Patent Classification (8th edition unless older edition indicated)<br>See relevant information in Form PCT/ISA/237 | | |
| Applicant<br>ZAKRYTOE AKTSIONERNOE OBSCHESTVO 'INTEL A/O' | | |

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 *bis*.1(a).

2. This REPORT consists of a total of 6 sheets, including this cover sheet.

   In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- ☒ Box No. I — Basis of the report
- ☐ Box No. II — Priority
- ☐ Box No. III — Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV — Lack of unity of invention
- ☒ Box No. V — Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI — Certain documents cited
- ☐ Box No. VII — Certain defects in the international application
- ☐ Box No. VIII — Certain observations on the international application

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44*bis*.3(c) and 93*bis*.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44*bis* .2).

| | |
|---|---|
| | Date of issuance of this report<br>19 September 2006 (19.09.2006) |
| The International Bureau of WIPO<br>34, chemin des Colombettes<br>1211 Geneva 20, Switzerland<br>Facsimile No. +41 22 338 82 70 | Authorized officer<br>Beate Giffo-Schmitt<br>e-mail: pt03@wipo.int |

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY



To:

Obschestvo s ogranichennoi
otvetstvennostju "SOJUZPATENT",
ul. Iliinka, 5-2,
Moscow, 103735

# PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43 bis.1)

| | |
|---|---|
| | Date of mailing 16 December 2004 (16.12.2004) |
| Applicant's or agent's file reference R 4840 | **FOR FURTHER ACTION** See paragraph 2 below |

| International application No. | International filing date (day/month/year) | Priority date (day/month/year) |
|---|---|---|
| PCT/RU 2004/000105 | 19 March 2004 (19.03.2004) | |

International Patent Classification (IPC) or both national classification and IPC
G06F 11/07, 15/173, H04L 12/66

Applicant
ZAKRYTOE AKTSIONERNOE OBSCHESTVO "INTEL A/O" et al.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis. 1 (a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For farther options, see Form PCT/ISA/220.

3. For farther details, see notes to Form PCT/ISA/220.

| | |
|---|---|
| Name and mailing address of the ISA/RU FIPS<br>Russia, 123995, Moscow, G-59, GSP-5,<br>Berezhkovskaya nab., 30-1<br>Facsimile No. | Authorized officer<br>O. Krysanova<br>Telephone No. |

**WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/RU 2004/000105

**Box No. I Basis of this opinion**

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language ———————— , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
a. type of material

☐ a sequence listing

☐ table(s) related to the sequence listing

b. format of material

☐ in written format

☐ in computer readable form

c. time of filing/furnishing

☐ contained in the international application as filed.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/RU 2004/000105

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

| | | | |
|---|---|---|---|
| Novelty (N) | Claims | 5,6,8,12,13,16,18,21-26, 29-32,37,38, 45,48 | YES |
| | Claims | 1-4,7,9-11,14,15,17,19,20,27-28,33-36,39-44,46-47 | NO |
| Inventive step (IS) | Claims | 5,6,8,12,13,16,18,21-22, 29,32,37,38, 45,48 | YES |
| | Claims | 23-26, 30-31 | NO |
| Industrial applicability (IA) | Claims | 1-48 | YES |
| | Claims | | NO |

2. Citations and explanations:

During the preparation of the Written Opinion of the International Search Authority there were used the following sources of information:

D1 – US 6658018 B1;
D2 – US 6381218 B1;
D3 – US 2003/0126315 A1 ;
D4 – US 2003/0140191 A1;
D5 – US 6654801 B2 ;
D6 - RU 2202123 C1.

In D1 there is described a computer system , which realizes a method for a failover and for a static or dynamic load balancing. The known system comprises a first network adapter , a second network adapter , that is connected to the first network adapter, and a filter driver , which has been represented in the form of program 300. Therewith, upon the failovers, when the first network adapter and a data path through the first network adapter fails , the filter driver receives a path fail notification , in accordance with which the first network adapter and the data path has failed , and reroutes packets, which are directed to the first network adapter, to the second network adapter (see in D1: lines 7 to 21 of column 3; column 5, line 63 – column 6, line 6; Claims 5 and 9 and Figures 1 and 5).

Therewith, in the known system upon the static load balancing the filter driver determines data parts for each plurality of the data paths , determines a maximum number of commands for the given target logic unit and selects a data path on which to send a packet based on the data quota and the maximum number of commands (see in D1: column 4, line 33 – column 5, line 8; column 5, line 63 – column 6, line 6; lines 36 to 67 of column 6 and Figures 1, 3 and 5), but upon the dynamic load balancing the filter driver determines a data transfer speed for each of multiple data paths, updates a load balancing share for each of the of the multiple data paths and selects a data path, on which to send a packet , based on the load balancing share of each of the multiple data paths (see in D1: lines 60 to 67 of column 4; column 5, line 9 – column 6, line 6; lines 36 to 67 of column 6; Claim 18 and Figures 1, 4 and 5).

Thus, the independent Claims 1, 11 and 14 do not meet the criterion of novelty.

The features of the dependent Claims 2 to 4 and 15 are also known from D1 (see in D1: lines 7 to 21 of column 3; lines 60 to 67 of column 4; column 5, line 9 – column 6, line 6; lines 36 to 67 of column 6; Claims 5, 9 and 18 and Figures 1, 4 and 5).

Claims 2 to 4 and 15 also do not meet the criterion of novelty.

Therewith, it should be noted that the computer system , which is known from D1, comprises a storing medium, wherein command are conserved (see in D1: Claim 22).

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation 1 of Box No. V

Thus, since any device, system, including also the computer system, known from D1, may be understood as an article of manufacture, the independent Claims 33, 39, 43 and 46 also do not meet the criterion of novelty.

The features of the dependent Claims 34 to 36, 40 to 42, 44 and 47 also are known from D1 (see in D1: lines 7 to 21 of column 3; lines 60 to 67 of column 4; column 5, line 9 – column 6, line 6; lines 36 to 67 of column 6; Claims 5, 9 and 18 and Figures 1, 4 and 5). In this connection, these claims also do not meet the criterion of novelty.

It should be noted, that in D4 and D5 there are also disclosed all the features, which are mentioned in Claims 1 to 4 and in Claims 33 to 36. Therewith, in D4 there are disclosed all the features of Claims 39 to 42.

From D2 there is also known a method for failover, when at least one network adapter and data path through the network adapter fails. In the known method the network adapter is connected to a miniport driver, which is connected to a filter driver. Therewith, the miniport driver determines that the network adapter has failed and notifies the filter driver, that the network adapter has failed (see in D2: lines 26 to 54 of column 5; lines 21 to 67 of column 6; lines 1 to 33 of column 7; lines 36 to 41 of column 13 and Figures 4A and 4B).

Thus, the independent Claim 7 does not meet the criterion of novelty.

The features of the dependent Claims 9 and 10 are known from D2 (see in D2: lines 26 to 54 of column 5; lines 21 to 67 of column 6; lines 1 to 33 of column 7; column 9, line 58 – column 10, line 21; lines 36 to 41 of column 13 and Figures 4A, 4B and 6).

Thus , Claims 9 and 10 also do not meet the criterion of novelty.

From D3 there is also known a system , which is coupled to a network and data storage. The known system comprises a host computer , a storage controller, (see in D3: paragraph [0018] in page 2; paragraph [0019] in pages 2 and 3; paragraphs [0020], [0021] and [0025] in page 3; page 3, paragraph [0026] – page 4, paragraph [0029] and Figures 1 to 3).

Thus, the independent Claim 17 does not meet the criterion of novelty.

The features of the dependent Claims 19 and 20 are known from D3 (see in D3: paragraphs [0019] to [0021] and paragraphs [0025] and [0026] in page3; paragraph [0029] in page 4 and paragraph [0041] in page 5).

Thus , Claims 19 and 20 also do not meet the criterion of novelty.

In the system, which is known from D3, there is also contained a miniport of the host computer (see paragraph [0027] in page 4 of D3). However, from the general state of the art it is the well-known fact, consisting in that for miniports there are respective drivers.

Furthermore, as it was above noted, from D2 there is already known the driver of the host computer miniport , which is capable to determine, that at least one of the network adapters has failed, and to notify the filter driver, that the network adapter has failed (see in D2: lines 26 to 54 of column 5; lines 21 to 67 of column 6; lines 1 to 33 of column 7; column 9, line 58 – column 10, line 21; lines 36 to 41 of column 13 and Figures 4A, 4B and 6).

Thus, from D3 and D2 it follows a notoriety of the invention, which is declared in accordance with the independent Claim 23. Therefore, Claim 23 also do not meet the criterion of inventive step.

The features of the dependent Claims 24 to 26 are known from D2 (see in D2: lines 26 to 54 of column 5; lines 21 to 67 of column 6; lines 1 to 33 of column 7; column 9, line 58 – column 10, line 21; lines 36 to 41 of column 13 and Figures 4A, 4B and 6).

Supplemental Box.

In case the space in any of the preceding boxes is not sufficient.

Continuation 2 of Box No. V

Thus , Claims 24 to 26 also do not meet the criterion of inventive step.

From D3 it is also known, that a filter driver is capable of determining a data quota for each of multiple data paths, identifying a maximum number of commands for a target logical unit, and selecting a data path on which to send a packet based on the data quota and the maximum number of commands (see in D3: paragraphs [0020], [0021] and [0025] in page 3; page 3, paragraph [0026] – page 4, paragraph [0029]; paragraphs [0031] and [0032] in page 4 and paragraph [0040] in page 5).

In this connection, the independent Claim 27 does not meet the criterion of novelty.

The features of the dependent Claim 28 are known from D3 (see paragraph [0029] in page 4 of D3), and in this connection Claim 28 also does not meet the criterion of novelty.

With respect to the independent Claim 30 it should be noted, that , as it was already noted , from D3 there is known a system , which is coupled to a network and data storage. Therewith, the system comprises a host computer , a storage controller, which manages Input/Output (I/O) access to the data storage and which is coupled to the host computer, and a filter driver, which is intended for a determination of balancing load.

Furthermore, as it was already noted , from D1 there is already known the filter driver, which is intended for a determination of balancing load. Therewith this driver is capable of determining a data transfer speed for each of multiple data paths, updating a load balancing share for each of the multiple data paths based on the data transfer speed of each of the multiple data paths, and selecting a data path on which to send a packet based on the load balancing share of each of the multiple data paths.

Thus, from D3 and D1 it follows a notoriety of the invention, which is declared in accordance with the independent Claim 30, therefore, Claim 30 does not meet the criterion of inventive step.

As regards the features of dependent Claim 31 , they are also known from D1.

None of D1 to D6 discloses the features of Claims 5, 6, 8, 12, 13, 16, 18, 21, 22, 29, 32, 37, 38, 45 and 48, and these features are not obvious ones from the viewpoint of the technical result, but namely: a redistribution of the packets between processing devices, and in this connection , the given claims meet the criteria of novelty and inventive step.